

What is claimed is:

- 1 1. A method for use in assembling a microelectronic circuit package, comprising:
 - 2 providing a package substrate;
 - 3 applying a polymer material to a surface of said package substrate;
 - 4 attaching pins to said package substrate, through said polymer material, by
 - 5 solder reflow; and
 - 6 allowing said polymer material to cure about solder joints associated with said
 - 7 pins.

- 1 2. The method of claim 1, wherein:
 - 2 attaching pins includes placing solder elements in the polymer material in
 - 3 desired pin locations.

- 1 3. The method of claim 2, wherein:
 - 2 said solder elements include solder balls.

- 1 4. The method of claim 2, wherein:
 - 2 attaching pins includes pressing a pin toward said package substrate at the
 - 3 location of a solder element.

- 1 5. The method of claim 2, wherein:
 - 2 attaching pins includes using a jig to press multiple pins toward said package
 - 3 substrate at the locations of solder elements.

- 1 6. The method of claim 1, wherein:
 - 2 applying a polymer material includes screen printing said material on said
 - 3 surface.

1 7. The method of claim 1, wherein:
2 attaching pins to said package substrate includes placing said pins in a jig and
3 applying pressure to said jig at a temperature that equals or exceeds a melting
4 temperature of the pin solder so that the pins are pressed through the polymer material.

1 8. The method of claim 1, wherein:
2 said polymer material includes a no flow material.

1 9. The method of claim 1, wherein:
2 said polymer material has fluxing capabilities.

1 10. A method for use during fabrication of a microelectronic device package,
2 comprising:

3 providing a package substrate having a plurality of contact pads on a surface
4 thereof;
5 attaching pins to said plurality of contact pads by solder reflow; and
6 applying an encapsulation material about solder joints associated with said pins,
7 said encapsulation material to maintain a location of said pins on said package substrate
8 during subsequent high temperature processing.

1 11. The method of claim 10, wherein attaching pins includes:
2 placing said pins in a jig;
3 applying solder to at least one of the following: said pins and said contact pads;
4 aligning said jig with said package substrate; and
5 applying pressure to said jig at a temperature that equals or exceeds a melting
6 temperature of said solder.

1 12. The method of claim 10, wherein:
2 applying an encapsulation material includes applying a no flow material.

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1 13. The method of claim 10, wherein:
2 said encapsulation material includes at least one of the following: an epoxy-
3 based material and a polyimide-based material.

1 14. A substrate for use in a microelectronic circuit package, comprising:
2 a plurality of pin contact pads on a first surface of said substrate;
3 a plurality of pins soldered to pin contact pads on said first surface of said
4 substrate; and
5 an encapsulation material surrounding solder joints associated with said
6 plurality of pins, said encapsulation material preventing movement of pins when said
7 substrate is subjected to high temperatures.

1 15. The substrate of claim 14, wherein:
2 said encapsulation material includes a polymer material.

1 16. The substrate of claim 14, wherein:
2 said encapsulation material includes a no flow material.

1 17. The substrate of claim 14, wherein:
2 said encapsulation material includes at least one of the following: an epoxy-
3 based material and a polyimide-based material.

1 18. A microelectronic device comprising:
2 a package substrate having pin contact pads on a first surface thereof;
3 a plurality of pins soldered to said pin contact pads on said first surface of said
4 package substrate;
5 an encapsulation material surrounding solder joints associated with said
6 plurality of pins, said encapsulation material preventing movement of pins when said
7 microelectronic device is subjected to high temperatures; and

8 a microelectronic die connected to said package substrate, said microelectronic
9 die having bond pads that are conductively coupled to said pins through said package
10 substrate.

1 19. The microelectronic device of claim 18 wherein:
2 said microelectronic die is connected to said package substrate using a lead free
3 solder having a relatively high melting temperature.

1 20. The microelectronic device of claim 18 wherein:
2 said encapsulation material includes a polymer material.

1 21. The microelectronic device of claim 18 wherein:
2 said encapsulation material includes a no flow material.

1 22. The microelectronic device of claim 18 wherein:
2 said encapsulation material includes at least one of the following: an epoxy-
3 based material and a polyimide-based material.